

REMARKS

In the Office Action, claims 1-11, 13-24 and 26-45 were rejected and claims 12 and 25 were objected to. In paragraph 4, page 3 of the "Detailed Action" the Examiner indicated that claim 11 would be allowable if written in independent form. However, in view of the Office Action Summary and rejection in paragraph 3, page 2 of the "Detailed Action," Applicants believe that the Examiner intended to reject claim 11. All of the pending claims are believed to be allowable over the prior art of record. Reconsideration and allowance of all pending claims are respectfully requested in view of the arguments herein below.

Incomplete Rejection of Dependent Claims

Before addressing the Examiner's position as formulated in the Action, Applicants point out that the Examiner failed to discuss *any* of the features recited in *any* of the dependent claims. This is true of the current and the previous Actions. Applicants could provide reasons for allowing each and every dependent claim, but deem it improper that they should do so here. Indeed, it is the Examiner's responsibility to set forth a *prima facie* case of unpatentability with respect to each and every claim. Applicants therefore submit that the current rejections are incomplete and improper on their face, and respectfully request that the Examiner set forth cogent bases for rejecting the claims in a manner that will permit the Applicants fairly to respond.

Rejections Under 35 U.S.C. § 103

Claims 1-11, 13-24 and 26-45 were rejected under 35 U.S.C. § 103(a) as being unpatentable Miyamoto et al., U.S. Patent No. 4,672,346 in view of Sellers, U.S. Patent No. 5,431,165.

The Examiner failed to respond to the Applicants' arguments in the previous Office Action response.

First, Applicants point out that, in the Office Action mailed on August 30, 2004, the Examiner rebutted the Applicants' position by arguing that "one advantage offered by replacing the elements 19 of Fig. 11 of Miyamoto with permanent magnet material would be that the same materials are used (i.e. permanent magnet shims movable inside a permanent magnet) resulting in a more stable temperature sensitivity for the overall assembly." The Examiner further argued, "Miyamoto himself used permanent magnet that are movable with respect to other permanent magnets. See permanent magnets 23 and permanent magnet 1 in Fig. 13." The Examiner finally stated, "The level of ordinary skill in the art of MRI magnet design is high." The arguments put forth by the Examiner are addressed below.

However, Applicants point out that the Examiner has yet to address the crux of the points brought out in the responses to date. The most recent Office Action included no discussion or rebuttal at all. The fact is, as discussed below, a soft magnetic material is *not* the same as a permanent magnet, and will not perform the same in the claimed context.

For a *prima facie* case of obviousness, the Examiner must set forth the differences in the claim over the applied reference, set forth the proposed modification of the reference, which would be necessary to arrive at the claimed subject matter, and explain why the proposed modification would be obvious. Although the finality of last action was withdrawn, the Examiner did not state as to why the proposed modification would be obvious. The Miyamoto reference, does not teach, suggest or disclose each and every aspect of Applicants' invention as claimed in independent claims 1, 14, 26 and 31.

Claim 1 and the Claims Depending Therefrom.

Independent claim 1 recites a permanent magnet *assembly*, which includes a fixed permanent magnet body and a movable permanent magnet body. The movable permanent magnet body moves relative to the fixed permanent magnet body.

The Examiner argued that it would be obvious to use a permanent magnet in place of soft magnet in the invention of Miyamoto. This is, in fact, a reason not to make the replacement. *The plug as described in the Miyamoto reference is not differentially affected by flux, flux direction, etc., as the soft magnetic or ferromagnetic plug would be influenced only by the flux of the permanent magnet.*

There would not be any interaction of magnetic fields of the permanent magnet and the plug at all. In fact using a permanent magnet inside another permanent magnet, as claimed, creates unique issues, and advantages, owing to field interaction, polarity and so on. In other words, the *interaction or influence of a soft magnetic material over the magnetic field of a permanent magnet, and vice versa, when the soft magnetic material moves inside the permanent magnet would be different than that of a permanent magnet moving inside another permanent magnet, as claimed.*

The Examiner further argued that the Miyamoto reference describes the use of two permanent magnets in Fig. 13. The Miyamoto reference in Fig. 13 describes moving permanent magnets *outside* the fixed permanent magnets. Hence the permanent magnets of Fig. 13 in the Miyamoto reference do not constitute the permanent magnet *assembly* and do not accomplish the same results of the permanent magnet *assembly* claimed.

The Examiner finally stated that the level of ordinary skill in the art is high. Even with the high level of ordinary skill in the art, no one prior to the invention has yet proposed using a permanent magnet moving inside another permanent magnet.

Hence the Miyamoto reference does not teach, suggest or disclose each and every aspect of Applicants' recited invention as claimed in the independent claim 1 or its dependent claims.

Claim 14 and the Claims Depending Therefrom.

Independent claim 14 recites a magnetic resonance imaging apparatus, which includes a yoke and a permanent magnet *assembly*. The yoke includes a first portion, a second portion and a third portion connecting the first and the second portion. The permanent magnet *assembly* attached to the first yoke portion and includes a fixed permanent body and a movable permanent magnet body. The movable permanent magnet body is movable relative to the fixed permanent magnet body.

As discussed above, the Miyamoto reference does not teach, suggest or disclose the use of two permanent magnets as recited in independent claim 14. Claim 14 and its dependent claims are therefore clearly patentable over Miyamoto.

Claim 26 and the Claims Depending Therefrom.

Independent claim 26 recites a permanent magnet *assembly*. The permanent magnet *assembly* includes a fixed permanent magnet body and a permanent magnet means for moving relative to the fixed permanent magnet to adjust a Bo field of the assembly.

The arguments for claim 1 are equally valid and hence the Miyamoto reference does not teach, suggest or disclose each and every aspect of Applicants' invention as recited in the independent claim 26 or its dependent claims.

Claim 31 and the Claims Depending Therefrom.

Independent claim 31 recites a method of making a permanent magnet *assembly*. The method includes providing a fixed permanent magnet body and a movable permanent magnet body. The method further includes moving the movable permanent magnet body relative to the fixed permanent magnet body to adjust a B_0 field of the assembly.

As discussed above, the Miyamoto reference does not teach, suggest or disclose the use of such permanent magnets. Claim 31 and its dependent claims are therefore clearly patentable over Miyamoto.

Conclusion

Therefore, the present invention, as recited in independent claims 1, 14, 26 and 31 is patentable. Claims 2-11 and 13 depend directly or indirectly from claim 1, claims 15-24 depend directly or indirectly from claim 14, claims 27-30 depend directly or indirectly from claim 26, and claims 32-45 depend directly or indirectly from claim 31. These claims are allowable by virtue of such dependency, as well as for the subject matter they separately recite. Thus, it is respectfully requested that the rejection of claims 1-11, 13-24 and 26-45 under 35 U.S.C. §103(a) be withdrawn.

In view of the remarks and amendments set forth above, Applicants respectfully request allowance of the pending claims. If the Examiner believes that a telephonic interview will help speed this application toward issuance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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